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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/064,892	08/27/2002	Thomas M. Breuel	111744	3616
27074 7590 04/04/2011 OLIFF & BERRIDGE, PLC. P.O. BOX 320850 ALEXANDRIA, VA 22320-4850				
EXAMINER				
PAULA, CESAR B				
ART UNIT		PAPER NUMBER		
2177				
NOTIFICATION DATE		DELIVERY MODE		
04/04/2011		ELECTRONIC		

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UNITED STATES PATENT AND TRADEMARK OFFICE

BEFORE THE BOARD OF PATENT APPEALS
AND INTERFERENCES

Ex parte THOMAS M. BREUEL, HENRY S. BAIRD, WILLIAM C.
JANSSEN, ASHOK C. POPAT, and DAN S. BLOOMBERG

Appeal 2009-007608
Application 10/064,892
Technology Center 2100

Before JAY P. LUCAS, THU A. DANG, and JAMES R. HUGHES,
Administrative Patent Judges.

DANG, *Administrative Patent Judge.*

DECISION ON APPEAL

I. STATEMENT OF THE CASE

Appellants appeal under 35 U.S.C. § 134(a) from a Final Rejection of claims 1, 3-13, 16, and 18-28. Claims 2, 14, 15, and 17 have been canceled. We have jurisdiction under 35 U.S.C. § 6(b).

We affirm.

A. INVENTION

According to the Appellants, the invention relates to converting a document from a page-image format into a format suitable for reformatting or “re-flowing” of the document to fit an arbitrarily sized display device (Abstract).

B. ILLUSTRATIVE CLAIM

Claim 1 is exemplary:

1. A method of converting a document in a page-image format into a form suitable for an arbitrarily sized display, comprising in sequential order:

deconstructing a document in a page image format into a set of segmented image elements;

synthesizing the deconstructed document into an intermediate data structure that is convertible into a commercially available format; and

distilling the intermediate data structure for redisplay by converting the intermediate data structure into a format usable for reflow on an arbitrarily sized display,

wherein the intermediate data structure is automatically adaptable at the time of display to constraints of any display device or circumstance of viewing.

C. REJECTION

The prior art relied upon by the Examiner in rejecting the claims on appeal is:

Balabanovic	US 6,895,552 B1	May 17, 2005 (filed on May 31, 2000)
Thacker	US 7,028,258 B1	Apr. 11, 2006 (filed on Oct. 01, 1999)

Claims 1, 3-13, 16, and 18-28 stand rejected under 35 U.S.C. § 103(a) as being unpatentable over Thacker in view of Balabanovic.

II. ISSUES

The issues are whether the Examiner has erred in determining that

1. Thacker in view of Balabanovic would have disclosed or suggested “distilling the intermediate data structure for redisplay by converting the intermediate data structure into a format usable for reflow on an arbitrarily sized display” wherein “the intermediate data structure is automatically adaptable at the time of display” (claim 1); and
2. One of ordinary skill in the art would have predictably combined Thacker and Balabanovic to produce the claimed invention.

III. FINDINGS OF FACT

The following Findings of Fact (FF) are shown by a preponderance of the evidence.

Appellants' Specification

1. Appellants define “reflowing” as a process that rearranges text elements from one text-line to the next to be contained within given margins of a display screen, such that the full width of a display is used and no manual ‘panning’ across the screen is necessary (Spec. 2, ¶ [0006]).

Balabanovic

2. Balabanovic discloses scanning of individual document pages to obtain bitmaps and applying conventional document analysis techniques,

such as, commercial OCR systems to provide basic layout information and character interpretations. The bitmap is processed such that a single document page is decomposed into blocks of text, pictures, or figures. One end result of document analysis is a list of segmented blocks, wherein each segmented block is categorized as text, a picture, or line art (col. 5, ll. 50-67).

Thacker

3. Thacker discloses a method for dynamic pagination that converts an electronic document scanned from a hard copy of the document and divides it into a number of segments. The segments may correspond to a chapter of a book or an article from a magazine. The document includes text, images, and footnotes (col. 3, l. 59 – col. 4, l. 10; col. 5, ll. 4-15).

4. Thacker discloses that the method includes determining how much text fits onto a given page, wherein the text represents whole words and/or hyphenated words. Specifically, each page is represented by a specific number of columns (206, 208) and slots 202 based upon the size of the display screen 200. Text is “poured” or inserted into each slot 202 within the column(s) of a page and proceeds from slot to slot and column to column to determine how much text will fit onto the page 200 (Fig. 2A; col. 5, ll. 50-67; col.6, ll.1-6).

5. Thacker discloses that the text may be adaptable for a variety of different sized display screens including a dedicated electronic book device, a palm-PC device, a desktop computer wherein each display screen has a varying size represented by differing numbers of columns and slots (col. 6, ll. 7-16; ll. 18-25).

6. Thacker discloses that the method for dynamic pagination is independent of the display device on which it will be viewed, such that pagination may occur for any type of display device (col. 4, ll. 21-30).

IV. ANALYSIS

In this Decision, we have considered only those arguments actually made by Appellants. Arguments which Appellants could have made but did not make in the Appeal Brief have not been considered and are deemed to be waived. *See* 37 C.F.R. § 41.37(c)(1)(vii).

35 U.S.C. § 103(a)

Claims 1, 3-13, 16, and 18-28

Appellants contend that Thacker's method of dynamic pagination does “not lay out, or render each individual page with the segment, but rather only determines where the page breaks with the segment 104 lies” (App. Br. 9, quoting Thacker). Accordingly, Appellants argue that “to modify the Thacker method to include features related to reflow on an arbitrarily-sized display would unnecessarily complicate the Thacker method” and “render Thacker inoperable to its intended purpose” (App. Br. 9). Appellants assert further that in Thacker, “the currently desired page of a segment needs to be rendered for display ... in a preset manner” and “not in any reflow manner” (App. Br. 10). Moreover, Appellants contend that since the Examiner concedes that Thacker does not include “synthesizing a deconstructed document into an intermediate data structure,” “it is improper for [the Examiner] to rely on Thacker as disclosing ... [an] intermediate date [sic] structure” (App. Br. 10-11, Reply Br. 1 and 2).

Appellants assert further that the intermediate data structure taught in Balabanovic is “not such a structure that is further manipulable to provide the sort of reflow of a document into an arbitrarily sized page as is recited in the pending claims” (App. Br. 12).

Finally, Appellants argue that there is “no objective evidence of record is provided [by the Examiner] to support the conclusion that one of ordinary skill in the art would have predictably combined [the references] in the manner suggested with any reasonable expectation of success” (App. Br. 12).

The Examiner responds that “Thacker doesn’t just teach finding page breaks, but also pouring or laying out a document (electronic version of a paper document) text into slots created within the document according to the size of the screen of device to display the document” (Ans. 12). The Examiner further points out that “it would have been obvious to combine the scanning and [OCR]ing of the hard copy document of Balabanovic with the reflowing of text shown by Thacker, because it would make it more flexible, and easier to adapt the hard copy document text to fit in a particular device screen area size” (Ans. 13). The Examiner concludes that “[t]his would also cause the scanned in hard copy document to be placed in a format that would lend itself to the pouring being performed by Thacker, thereby effectively and quickly reformatting the document to fit in the device's screen” (Ans. 13).

We give the claims their broadest reasonable interpretation consistent with the Specification. *See In re Morris*, 127 F.3d 1048, 1054 (Fed. Cir. 1997). However, we will not read limitations from the Specification into the claims. *In re Van Geuns*, 988 F.2d 1181, 1184 (Fed. Cir. 1993).

Claim 1 does not place any limitation on what “a format usable for reflow on an arbitrarily sized display” is to mean, disclose or include. According to Appellants’ Specification, a reflowing is a process that rearranges text elements from one text-line to the next to be contained within given margins of a display screen, such that the full width of a display is used and no manual “panning” across the screen is necessary (FF 1). Thus, we give “converting the intermediate data structure into a format usable for reflow on an arbitrarily sized display” its broadest reasonable interpretation as converting an intermediate data structure into a reflow format, consistent with the Specification and as specifically defined in claim 1. That is, we will not read “converting the intermediate data structure into a format usable for reflow on an arbitrarily sized display” as a converting an intermediate data structure into a format usable for reflow wherein the text of each individual page is formatted for lay out and rendered for display as Appellants imply (App. Br. 9).

Therefore, Appellants contention that Thacker’s method of dynamic pagination does “‘not lay out, or render each individual page’” (App. Br. 9) is not commensurate in scope with the language of claims 1 or 16. In particular, claim 1 does not recite any “lay out” or “render[ing of] each individual page” as Appellants contend. That is, claim 1 merely requires “converting the intermediate data structure into a format usable for reflow on an arbitrarily sized display” as specifically recited.

Thacker discloses a method wherein the text of an electronic book or document is “poured” into slots of the page to determine how much text fits onto a given page corresponding to the size of the display screen (FF 3 and 4). Thacker discloses that the text may be adaptable for a variety of different

sized display screens (FF 5-6). Thus, contrary to Appellants' contention, we find that Thacker does suggest conversion of an electronic document into a format usable for reflow of text on an arbitrarily sized display.

We, therefore, find that Appellants' contention that incorporation of reflow within the method disclosed in Thacker "would unnecessarily complicate" and "render Thacker inoperable to its intended purpose" (App. Br. 9) is not persuasive, since we find that Thacker does teach the reflow of text to fit a variety of display screen sizes (FF 4-5).

Thacker further teaches that the method for dynamic pagination maintains that the document is independent of the display device on which it will be viewed so that it can be paginated for any size of display device (FF 4-6). The method of rearranging the text to fit the display screen included within dynamic pagination is *independent* of the size of the display device and, is therefore adaptable to any display screen (FF 6). Thus, contrary to Appellants' contention, we find that Thacker does suggest pouring text onto a screen of an arbitrarily sized display and not a fixed or predetermined one.

Balabanovic discloses scanning individual document pages to obtain bitmaps and processing the bitmaps using conventional document analysis using a conventional OCR system which provides basic layout information (FF 2). Specifically, Balabanovic teaches that the bitmap is decomposed into segmented blocks of text, pictures, or figures (FF 2). We find that these segmented image elements are converted into an intermediate data structure using the OCR process, wherein the recognition results data provided from OCRing the segmented image elements represents an intermediate data structure.

We note that by arguing that Thacker does not disclose an intermediate data structure (App. Br. 11) and that Balabanovic does not describe the conversion into a reflow format (App. Br. 12), Appellants appear to be arguing that individually Thacker and/or Balabanovic do not anticipate the claimed features. However, the Examiner rejects the claims as being obvious over the combined teachings of the references, and the test for obviousness is not what each reference teaches but what the combined teachings would have suggested to one of ordinary skill in the art. See *In re Merck*, 800 F.2d 1091, 1097 (Fed. Cir. 1986).

The combined teachings of Thacker and Balabanovic would have suggested the claimed features of conversion of an electronic document into an intermediate data structure, such as an OCR resultant data output format, which may be converted into a format, wherein text may be “poured” into an arbitrarily sized screen.

Regarding motivation to combine, we find that one skilled in the art would predictably combine the references since Balabanovic and Thacker both relate to document image processing (FF 2 and 3). We agree with the Examiner’s explicit motivation that combining the references would make the design “more flexible[] and easier to adapt the hardcopy document text to fit in a particular device screen area size” (Ans. 13).

The Supreme Court has stated that “[t]he obviousness analysis cannot be confined by a formalistic conception of the words teaching, suggestion, and motivation.” *KSR Int’l Co. v. Teleflex Inc.*, 550 U.S. 398, 419 (2007). Further, the Court stated “[t]he combination of familiar elements according to known methods is likely to be obvious when it does no more than yield predictable results.” *Id.* at 416.

Thus, we find no error in the Examiner's finding that the combination of the well-known technique of decomposing a scanned bitmapped image of a document into blocks and OCRing the document to produce an intermediate data structure for layout of both character and pictures, as disclosed in Balabanovic, with a method that optimizes an electronic version of a paper document for display in different devices, as disclosed in Thacker, is likely to be obvious (Ans. 3-4 and 12-13; FF 2-5).

Although Appellants add a new argument in the Reply Brief that "there is no text or image of the text in a segmented block [disclosed in Balabanovic]" (Reply Br. 4) and, as a result, "Thacker and Balabanovic are not combinable in the manner suggested" since "Balabanovic does not extract the information required to synthesize the deconstructed document into an intermediate data structure" (Reply Br. 5), this argument could have been raised in the Appeal Brief. That is, the Examiner's Answer contains the same findings as those set forth in the Final Rejection and, thus, does not necessitate this new argument by the Appellants. It is inappropriate for Appellants to discuss for the first time in the Reply Brief matters that could have been raised in the Appeal Brief. "The failure to raise all issues and arguments diligently, in a timely fashion, has consequences." *Ex parte Borden*, 93 USPQ2d 1473, 1475 (BPAI 2010) (informative decision). *Cf. Kaufman Company v. Lantech, Inc.*, 807 F.2d 970, 973 n.* (Fed. Cir. 1986) and *McBride v. Merrell Dow and Pharms., Inc.*, 800 F.2d 1208, 1211 (D.C. Cir. 1986).

Thus, we conclude that the Examiner did not err in rejecting independent claim 1, independent claim 16 falling therewith, and claims 3-

13 and 18-28 depending respectively therefrom under 35 U.S.C. § 103(a) over Thacker in view of Balabanovic.

V. CONCLUSION AND DECISION

The Examiner's rejection of claims 1, 3-13, 16, and 18-28 under 35 U.S.C. § 103(a) is affirmed.

No time period for taking any subsequent action in connection with this appeal may be extended under 37 C.F.R. § 1.136(a)(1)(iv).

AFFIRMED